

Though no argument is made here to invalidate Lemmon's J. utahensis, it would seem, nevertheless, that his publication can hardly be cited in critical studies with propriety without considerable qualification or emendation.

ON SOME ASIATIC POLYGONUMS

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Agreement seems difficult in the naming of some Himalayan polygonums. Descriptions in Meisner and in Stewart (1, 2) often lack definition. The following selected specimens, with certain unique characters, seem to form a well-defined phylad limited to central Asia. The emended descriptions may help to define the species.

Polygonum paronychioides C. A. Mey.

Perennial with fruticose stems and branches. The fruiting twigs are composed of short (3--5 mm.) woody sections each of which has one perianth with an achene, which are persistent after leaf and ocrea have fallen. The achenes are lenticular or imperfectly triangular, one face being more or less umbonate, smooth, brown to black, 2.5--3 mm. long.

A typical specimen is R. R. Stewart 9966 in the New York Botanical Garden herbarium. Additional specimens examined are Walter Koelz 2961 in the New York Botanical Garden herbarium, as well as R. R. Stewart 20130 and Walter Koelz 2961 in the United States National Herbarium at Washington.

Polygonum mucronatum Royle

The name P. mucronatum has been placed in synonymy under the preceding species (2), but, while showing relationship, there are distinctive characters which make it a good species.

Perennial with fruticose stems and branches. The leaves are mucronate. The fruiting organ is a strobile-like spikelet at the end of a slender herbaceous twig. The spikelet is composed of short stem sections each of which carries a narrow bract, a white or lavender ocrea which dominates and encircles the stem, and a perianth, 5-parted to half or more its length, with an achene. The leaf, ocrea, and perianth are flattened and imbricated. The spikelet as a whole and the stem sections are readily deciduous. The achene is lenticular or vaguely triangular with only the tip actually triangular. The tip is

bent and sharp-edged or wing-margined, brown, shining, narrow, 2 mm. long.

A typical specimen is R. R. Stewart 9997 in the New York Botanical Garden herbarium. Additional specimens examined are R. R. Stewart 18976 and Walter Koelz A.135, 2735, 2947, 5766, 5879, 6160, and 7194, all in the New York Botanical Garden herbarium, and Walter Koelz 2947, 5766, 5879, 6117, 6160, 7038, 7194, and 7214 in the United States National Herbarium.

Polygonum pulvinatum Komarov

Cushion knotweed. The following translation was taken from the Flora of the Soviet Union, volume 5 [Addenda 4], page 717 (1936). The editor, V. L. Komarov, is a member of the Botanical Institute of the Academy of Sciences, U. S. S. R. The translation was kindly made for me by L. H. Shinnars at the University of Wisconsin, Madison, Wisconsin.

"From the crown of the root downward comes a bunch of dense dark stout rootlets and above somewhat strictly a bunch of close semi-underground stems, about 5 cm. long, toward the summit with short leafy branchlets forming dense cushions, 5--10 cm. in diameter; stipules silvery white, semi-transparent, forming a sort of rosette at the branch tips, stipules on the nodes of the stems also lanceolate, symmetrically divided, soon torn into irregular tangled segments; leaves linear, narrow, with margins inrolled beneath, and acute but not mucronate, naked, not roughened, as also the branches; flowers solitary, shorter than the stipules, greenish or red, on very short pedicels, their segments separated nearly to the base, rounded at the tips; stamens 3; fruit trigonous, glabrous, the angles almost winged. May--July.

"Artemisia-steppes on flat slopes of valleys, and Artemisia steppes on sand. Central Asia; Aral-Casp. (also Kyz-Kum. and preBalkan), W. Siberia, upper Tob., Irt. Endemic. Described from a specimen from the lower course of the Sary-sa River. Type in Leningrad" (3).

Specimens examined are Walter Koelz A.135, 5766, and 9642, and R. R. Stewart 18976, 21234, and 1912-13, all in the New York Botanical Garden herbarium, and Schlagintweit 803981 [Tibet], R. R. Stewart 20505A, and Walter Koelz 5766, 6160, and 7214 in the United States National Herbarium.

Polygonum molliaeforme Boiss.

Several slender mountain forms are confused under this name. The description given by Stewart (2) ends with the words "...achenes triangular, smooth and shining", but an isotype [Kotschy 778 from Persia, collected in August 1842] in the New York Botanical Garden herbarium shows them to be quite

different. The specimen is not quite mature. It has fruiting spikelets at the ends of the twigs; achenes lenticular lanceolate, more or less wing-margined, concave on the upper side, the tip bent upwards, brown, 1.5--1.8 mm. long. These plants, with the foregoing species, contain a new concept of inflorescence in *Polygonum*.

A dwarf alpine annual growing scattered or in small mats; stems slender, capillary, brown or reddish, smooth, simple or branched, angled at the nodes, mostly 2--5 cm. high; leaves linear, sessile, apiculate or aristate, 4--8 mm. long; ocreae white or lavender, split into 2 or 3 ovate or lanceolate parts, dentate at the end with short teeth, 4--5 mm. high or higher, persistent. The inflorescence is at the ends of branches and spurs, in ovate strobile-like tufts, about 10 mm. long; the rachis is made up of about 8--12 short stem sections 2--3 mm. long, each of which is occupied by a linear, green, aristate bract, 4--5 mm. long, and a white or lavender, dentate, persistent ocreolus which is about 4 mm. high, envelopes the perianth, and is split into 2 or 3 ovate parts; the whole is compressed into a flattened concave scale; scales imbricated; the tuft as a whole is deciduous and the sections of the rachis easily separating; the perianth is flattened, 5-parted $1/2$ to $2/3$ its height, the sections rounded, white or lavender-margined, with a green triangular spot at the base, 2 mm. high; the mature achene is lenticular, ovate, rounded at the base; tapering to the apex, the upper $1/4$ is bent upward with its edges wing-margined, the body being simply edged or slightly margined, brown, smooth, shining, 1.5--2 mm. long, about 1 mm. wide.

A typical specimen is U. S. Nat. Herb. 165925, collected by Walter Koelz (his no. 2658) on August 18, 1931, in dry ground, altitude 14,000 feet, at Chartren Chen (Tog Nulla), Ladak, Kashmir, and is selected because of its mature achenes. Additional specimens examined are U. S. Nat. Herb. 1605906, 1605919, 1609320, 1609574, and 1605794 [of the last-mentioned sheet some plants are infested by the smut *Ustilago utriculata* (Nees) Tul.], all deposited at Washington; Walter Koelz 2653, 2831, 2837, 6547, and 7037, R. R. Stewart 460a, and H. de Ferra & Hutchinson 178, all in the New York Botanical Garden herbarium; and K. H. & F. Rechinger 5408, collected in the province of Shahrud-Bustam, Iran, in 1948, deposited in my own herbarium.

To the above, the following new variety and form are hereby proposed:

Polygonum molliaeforme f. *attenuatum* Brenckle, f. nov.

Haec forma a forma typica speciei recedit sectionibus caulibus elongatis usque ad 10 cm. longis et ocreis ocreolisque elongatis, dentibus brevibus usque ad longe attenuatis lineari-

bus.

Stems with elongated sections up to 10 cm. high, the ocreae and ocreolae elongated, with teeth from short to long-tapering and linear.

The type specimen is U. S. Nat. Herb. 1603806, collected by Walter Koelz (his no. 5640) on July 16, 1933, altitude 13,000 feet, near Tetha Zaskar, Kashmir, deposited at Washington.

Polygonum molliaeforme var. pygmaeum Brenckle, var. nov.

Haec varietas a forma typica speciei recedit caulibus simplicibus capillaribus 5--10 mm. altis; foliis bracteisque linearibus aristatis; apicibus ocrearum aristatis; spiculis plerumque solitariis, rare per caulem 2 vel 3; floribus lavandulaceis; fructibus lenticularibus ovatis obesusculis, apice paullo curvato laevi brunneo ca. 1 mm. longo.

Stem simple, capillary, 5--10 mm. high; leaves and bracts linear, aristate; ocreae with aristate tips; spikelets usually one, seldom 2 or 3 to a stem; flowers lavender; achenes lenticular, ovate, rather plump, the tip slightly bent, smooth, brown, about 1 mm. long.

The type specimen was collected by Walter Koelz (no. 2395) on July 20, 1931, on a dry sandy plain, at an altitude of 15,000 feet, Tsakzhun Tso, Ladak, Kashmir, and is deposited in the Britton Herbarium at the New York Botanical Garden.

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- (1) C. F. Meisner in De Candolle, Prodrumus XIV. 1857.
- (2) A. N. Stewart, Contributions from the Gray Herbarium LXXXVIII. 1930.
- (3) V. L. Komarov, Flora U. R. S. S. V, Addenda IV, pp. 596 et seq. 1936.